



Policy for Collection of Bridge Condition Data

The Transportation Asset Management Council adopted this policy on September 6, 2017.

Introduction:

The Transportation Asset Management Council (TAMC) was established to expand the practice of asset management statewide to enhance the productivity of investing in Michigan's roads and bridges. Part of the TAMC's mission is to collect physical inventory and condition data on all roads and bridges in Michigan. This document describes the policy and procedures for collecting the physical inventory and condition data on the bridges owned by Public Act (PA) 51 agencies.

Requirements:

According to PA 51, MCL 247.659a; each local road agency and the Michigan Department of Transportation (MDOT) shall annually report to the TAMC the mileage and condition of the road and bridge system under their jurisdiction. Additionally, procedures and requirements developed and presented by the TAMC shall, at a minimum, include the areas of training, data storage and collection, reporting, development of a multiyear program, budgeting and funding, and other issues related to asset management. All quality control standards and protocols shall, at a minimum, be consistent with existing federal requirements and regulations and existing government accounting standards. TAMC therefore requires reporting of bridge inventory and condition data consistent with existing federal requirements, which are those set forth in the National Bridge Inspection Standards (NBIS) (23 CFR 650 Subpart C), which requires the State of Michigan to make available to the United States Secretary of Transportation:

1. Written reports on the results of highway bridge inspections together with notations of any action taken pursuant to the findings of such inspections; and
2. Current inventory data for all highway bridges reflecting the findings of the most recent highway bridge inspections conducted.

The NBIS sets requirements for items including but not limited to: personnel, inspection frequency, inspection procedures and inventory. Inspection procedures include load rating, bridge file requirements, fracture critical inspections, underwater inspections, and scour critical requirements, complex bridges, quality control and quality assurance and critical findings.

Element Level Inspection:

The most effective tool for proper bridge management is the consistent condition assessment of bridge elements. The element level inspection method breaks the bridge down into several elements, such as the railing, deck, girders, abutments, pier columns, etc. Each element is inspected and assigned a Condition State based on the amount of deterioration. The element level inspection is a quantity based inspection and each quantity is assigned a Condition State to reflect the differing categories of deterioration that often exist on any bridge element.

One of the end results of performing element level inspections is the generation of a database for a bridge management system. By developing a database over time, bridge deterioration rates based upon material, geographic location, age, usage, type of crossing, prior rehabilitation or preventive actions, etc. can be estimated. The software modeling capabilities allows comparisons between the effectiveness of preventive and corrective actions, predictions of estimated future deterioration, and life cycle costs. Decisions can be made regarding prioritizing funds, when (or when not) to take action, and what type of action to take for the maximum benefit of capital spent.

The TAMC requires element level data collection on bridges carrying the National Highway System (NHS) in accordance with this regulation. It is recommended that PA 51 agencies and MDOT consider element level data collection on all bridges in their inventory in order to advance asset management best practices.

If you have any questions relating to this policy as a whole, please contact:

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